while and necessary, because continued advancement and progress may be had only as all interests go forward together, and the hospital as a whole is just as good as its weakest department.

The wise administrator will interest himself in all public movements having better health as part of their program, and he will make an earnest effort to work in close co-operation with all such movements with which his institution comes in contact. Hospitals like other public service agencies must have friends and a wide zone of influence for good. One of the principal functions of the executive is to foster and develop this spirit all the time. Perhaps in a greater degree than other persons the hospital executive sees the waste that goes on about us all the time by the inefficiency, overlapping and what not of "organizations" "interested" in various phases of the great better health problem. He sees these things "close up" and it requires no little tact and judgment to establish and maintain the right contact with them all.

PERSONAL POPULARITY.

The work is not calculated to stimulate personal popularity any more than does similar work in other lines. However tactful, resourceful and politic the administrator may be, there come times and situations that must be met with firmness and even aggressiveness, with the consequent price in unhappiness. On the other hand, the work offers compensations in friendships, the consciousness of work well done, that are worth while and compare with those of other branches of medical and humanitarian work.

SUPERINTENDENT OF NURSES.

Much of the success of any executive depends upon his assistants, particularly the *superintendent of nurses*. Next to the chief executive, the superintendent or director of nurses fills the most important position. As with the other position, the demand far exceeds the supply and capable well trained executive nurses are not being trained as they should be. Other assistants include office manager, engineer, purchasing agent or property and supply officer and a capable efficient loyal force in each department.

By request, the next article will begin the discussion of the preparation, indexing and filing of clinical records.

Original Articles

SURGICAL PATHOLOGY OF THE SEMINAL VESICLES *

By JAMES R. DILLON, M. D.
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The chronicity of many urethral infections. arthritis, neurasthenic tendencies, perineal pain and many general functional disturbances is often due to the involvement of the seminal vesicles; and all the causes of pelvic engorgement predispose to a vesiculitis and its indefinite prolongation is probably due to incomplete drainage. Therefore it is highly important to have in mind the structural changes which may take place and be present in the vesicles during the various stages of an urethritis to guide us both in the prophylaxis and final treatment of the vesicles.

It is necessary to adopt every possible means of lessening the severity of a posterior urethritis, as it is evident that a slight amount of inflammatory swelling will block the ejaculatory ducts, hence we must avoid irritating medication, passage of instruments and manipulation during the acute stage of the urethritis. Should the ejaculatory ducts become infected and a vesiculitis occur and it is not carefully treated it results in a chronic condition, which may resist all our present non-operative methods of treatment. Most urologists have reported on the drainage of the vesicles being routinely done in all cases where operative procedure was undertaken. But in studying the pathology of sections taken from different cases at operation and comparing them with the clinical manifestations before and after operation, we find that simple drainage is not always sufficient to accomplish our purpose in operating, and may account for many of the unsatisfactory results of vesiculotomies.

In the chronic forms of seminal vesiculitis we find from the macroscopic study of the vesicles at operation, two distinct pathological changes—first, those involving the intrinsic structures and second, the extrinsic processes. From these two main types of pathological vesicles there may occur many variations, but in considering the operative indications we find it convenient to classify them under four definite types.

1. Where neither intrinsic nor extrinsic changes are macroscopically evident.
2. Where only extrinsic changes are macroscopically evident.
3. Where only intrinsic changes are macroscopically evident.
4. Where both intrinsic and extrinsic changes are macroscopically evident.

In the first group the pathological changes are not really evident to the eye. We find as a rule rather large thin-walled vesicles, distended with secretion, from which the fascia of Desnonvillier and the perivesicular tissues are easily separated. These vesicles generally consist of many convolutions and diverticula from which no secretion, or if any very little, could be expressed by rectal massage previous to operation. This retention is undoubtedly due to the stenosis of the ejaculatory ducts caused by inflammatory swelling of the lining epithelium in the early stages and later by sclerosis. Another factor in maintaining this mild type of vesiculitis is a large swollen boggy prostate, congested with blood and lymph and compressing the ejaculatory ducts sufficiently to prevent their vesicles from draining either spontaneously or by stripping and often prolonged in the preoperative treatment by too frequent and too violent massage.

* Read before the Forty-eighth Annual Meeting of the Medical Society, State of California, Santa Barbara, April, 1919.

Figure 1.
Transverse section of vesicle showing complicated infoldings of normal secreting structure.
D 329; Obj. A; Oc. 2 in., Zeiss.
Bel. 12 in.; T. 15; D. ½.

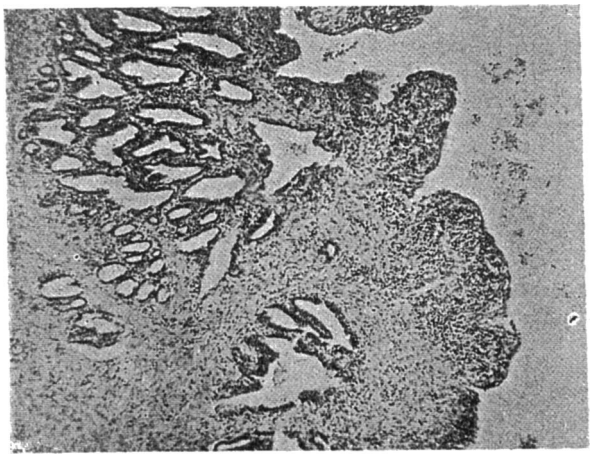

Figure 2.
Showing granulating extremities of thickened folds.
D 329; Obj. A; Oc. 2 in., Zeiss.
Bel. 12 in.; T. 15; D. ½.

Figure 3.
Showing fibrosis of ends of folds and destruction of secreting structures with cellular infiltration about base of folds.
D 329; Obj. A; Oc. 2 in., Zeiss.
Bel. 12 in.; T. 15; D. ½.

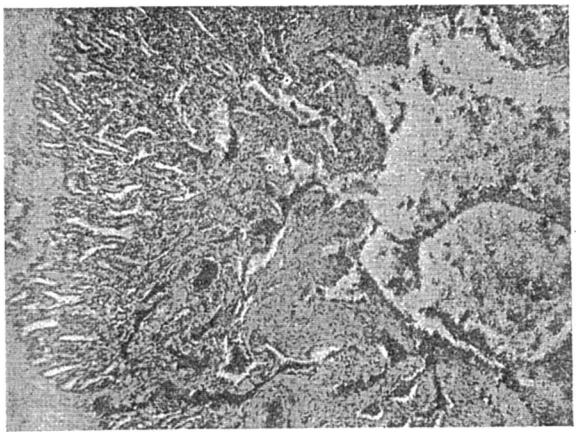

Figure 4.
Fibrosis of ends of folds with coalescence and destruction of secreting epithelium, lumen and recesses filled with cellular debris.
D 329; No. 4; Obj. A; Oc. 2 in.

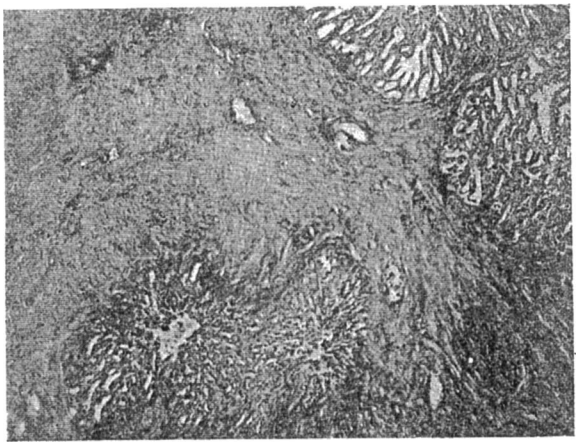

Figure 5.
Hyperplasia of the fibromuscular wall of vesicle with compression of secreting structures.
D 329; No. 3; Obj. A; Oc. 2 in.

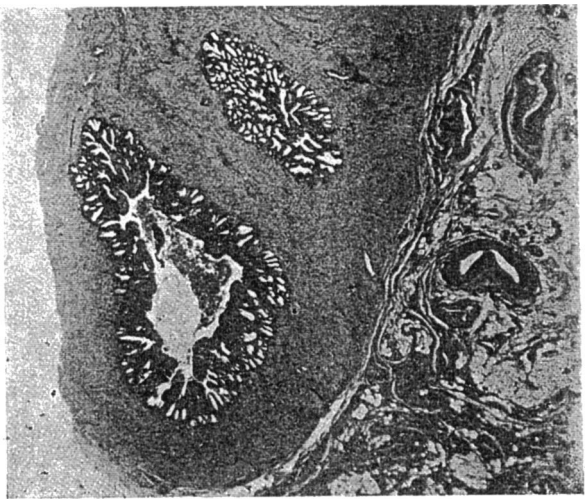

Figure 6.
Excessive fibrous thickening of walls of vesicle and marked coalescence of thickened mucous folds. Very low power.
Sp. 91; D 279; No. 11; Box 33.
Obj. 3 in., Oc. 2 in., Zeiss.

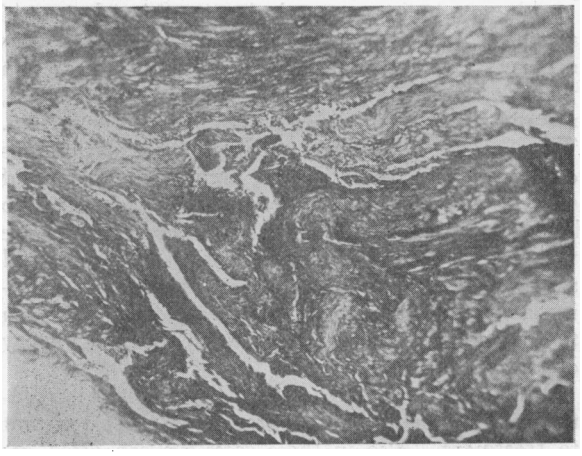

Figure 7.
Showing dense fibrous tissue about vesicle, marked cellular infiltration of the areolar connective tissue clefts.
D 213; No. 2; Obj. A; Oc. 2

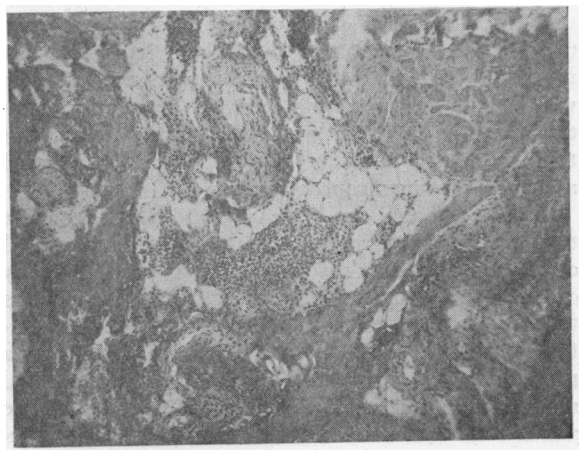

Figure 8.
Cellular infiltration of perivesicular tissue at considerable distance from the vesicles.
Sp. 91; D 260; No. 6; Box 33.
Obj. A; Oc. 2 in., Zeiss.

In the second group we find the vesicles in practically the same condition as in the first, but with marked extrinsic changes ranging from hyperaemia and oedema of the perivesicular tissues in the earlier stages to dense thickened scar tissues encasing large distended vesicles in the later changes. This fibrous thickening is generally continuous with the prostatic capsule and not only encases the vesicles but follows the ejaculatory ducts through the prostate ensheathing and constricting them. In this type rectal massage never yields any vesicular secretion, though as stated above, the vesicles may be greatly distended with it.

The third group represents vesicles in which the pathological process has been carried to the more extreme degree in the intrinsic changes. They become thickened and indurated with very little if any secreting capacity. On opening the vesicle only a drop or two of fluid can be obtained, and often profuse bleeding results, from the highly engorged vesicular and perivesicular tissues. In this group the vesicles are easily separated from their surrounding tissues.

In the fourth type we find the most marked and final stages of seminal vesiculitis in which it varies from the intrinsic changes found in the third group to a marked atrophic shrunken relic encased in thick tough tissue which may reach a quarter of an inch or more in thickness. At times it is utterly impossible to dissect them out and often very difficult to find and identify them. The proximity of the bladder, and the possibility of the peritoneum and ureters being drawn into closer relationship renders the operation more dangerous. The surrounding fibrous tissue may enclose the vesicles either entirely or partly, that is it may be very thick and hard at the base of the prostate where it starts and thin out as it approaches the fundi of the vesicles. The vesicles themselves may present intrinsic inflammatory changes in any or all of the above types, in the same vesicle, with the more marked condition of the third group in the lower part proximal to the ejaculatory ducts and with distended lobules in the fundus which have become walled off and if not removed must be opened and drained. Occasionally we may find these extensive changes limited to one vesicle while the other one may be fairly normal or exhibit only moderate inflammatory states.

In considering the normal microscopical anatomy, the vas deferens, ampullae, and seminal vesicles are similar in structure, each having a mucosa supporting several layers of epithelium.

External to the mucosa is a muscularis, consisting of two layers of involuntary muscle, the inner or circular is thick, and the outer longitudinal layer somewhat thinner with a thin submucosa connecting the mucous and muscular tunics. Outside of all is the fibrous adventitia, which is continuous with the surrounding connective tissue and contains bloodvessels and lymphatics.

The seminal vesicles are glandular and consist of two lobulated pouches placed between the base of the bladder and rectum, serving as reservoirs for the semen. The lining columnar epithelium yields a secretion which is thrown out into the lumen to be added to the secretion of the testes.

The mucosa is thrown into folds, somewhat like that of the fallopian tube. These divide the vesicular lumen into labyrinthin spaces. Normally the folds are moderately thin, and may give off secondary divisions. (Fig. 1.)

The microscopical pathology in the early stages shows more or less thickening of the mucous folds due to round celled infiltration and granulation tissue at their extremity and with some denuding of the epithelium. (Fig. 2.) These thickened folds coalesce at their free ends, becoming more fibrous in character and form recesses between them which are filled with inflammatory exudate, secretion, necrotic cells and micro-organisms. (Fig. 3.) Other lobulated pouches of the vesicle are more or less normal and many are dilated.

In places the lumen is obviously narrowed and more or less clogged with debris (Fig. 4), showing similar but more advanced changes. The fibrous tissue hyperplasia becomes more evident and exerts compression on the degenerating epithelial structures. (Fig. 5.) The stroma is very cellular.

A part of the lobules are more or less normal and others are widely dilated and contain cellular debris. In places leucocytes are intermixed with the round cells. Many lobules are often nearly obliterated.

In the more advanced stage of chronic vesiculitis the microscopical picture shows a progression of the conditions found in the preceding group. The granulation tissue increases and becomes more vascular. Many of the lobules are seen in a more advanced stage of obliteration, and being replaced by fibrous tissue. (Fig. 6.) The fibrous sheath of the vesicle shows thickening and leucocytic and round cell infiltration is more obvious in the perivesicular tissues.

In the later stages the destruction of glandular tissue with fibrosis is much more advanced. The perivesicular tissue is dense and the areolar tissue clefts are engorged with round cells and scattered or grouped leucocytes are seen. (Fig. 7.) At a considerable distance from the vesicles the loose areolar and adipose tissues are infiltrated with round cells and leucocytes intermixed. (Fig. 8.)

Throughout the series the pathological changes are irregular in distribution and between the foci of destruction there are areas quite normal or slightly involved, while again whole lobules are destroyed. The most striking changes in the advanced cases are the extensive fibrosis and the destruction of the secreting mucous membranes.

In types one and two the operative results were uniformly good for vesiculotomy. In type three the results were good on excising the vesicles and only slightly improved if at all on draining them. In type four the results of drainage were uniformly poor, principally because of the impossibility of thoroughly exposing the vesicles and opening up all foci of infection in both vesicular and perivesicular tissues. In all types there is from slight to complete retention of vesicular secretion and in the extreme pathological types there is more or less complete suppression and absence of secretion due to the destruction of the secreting epithelium, the thickening of the vesicular walls and the filling of the cavities with debris.

Several men with gonorrheal rheumatism have stated that their rheumatism is always relieved for a day or two following intercourse. These cases most likely can be placed in the first two groups, where the destructive changes are in the milder state, and the vesicles are still sufficiently elastic to be able to throw out their contents through the involuntary musculature in the vesicular walls, during ejaculation. But men with their vesicles in the more pronounced stages have as a rule had their sexual capacity greatly reduced and even become entirely impotent. In no case in our series has any man had his sexual capacity rendered less active than it was before either vesiculotomy or vesiculectomy, and in many cases where a patient had been impotent previous to operation he recovered his sexual capacity entirely in a few weeks or in some cases after several months, and a few patients claim they are more sexually active now and feel better than they have for years previously.

In many of our cases of chronic gleet we are unable to obtain any vesicular secretion by rectal massage. In studying the effect of massaging very often we find we can express the vesicular secretion the first time or two and then are unable to again, merely getting a few drops of prostatic secretion. The patient will even tell you that ejaculations during intercourse produce a diminished amount of semen. The most likely reason for this appears to be due to the production of a hyperaemia in the vesicle and also in the perivesicular tissues as well as in the prostate which tend to reduce the secreting and retaining capacity of the vesicle, in addition to compressing and obstructing the ejaculatory ducts.

It is in such cases that we find gonorrheal rheumatism, impotence and neurasthenia most resistant to treatment. Also in these cases we can often get the urethra in good condition with perfectly clear urine, and think our patient cured and dismiss him. But in a few weeks he returns with shreds and morning drop. A minute quantity of infected vesicular secretion has most probably oozed through the stenosed ejaculatory ducts and reinfected the urethra. We find that by draining or removing the vesicle and following the recovery from the operation with a few urethral and bladder irrigations that the urine often becomes permanently cleared and the morning drop disappears.

Lastly, though we have good clinical evidence that vesiculotomy and vesiculectomy produce no ill effects upon a man's sexual capacity and in many cases improves it, we have no data in our series as to the effect on sterility. But if, as stated by different investigators, the vesicular secretion has a prolonging action on the life of the spermatozoa, many sterile marriages can be accounted for by the marked fibrosis and destruction of secreting structures in the advanced chronic vesiculitis group. And in cases where there is considerable organic and functional disturbance in a man from chronic autointoxication from obviously destroyed vesicles, there can be no reason for leaving any diseased tissue to impossible drainage and risking the patient to the chance of an unsuccessful result of his operation.

CLINICAL OBSERVATION AND TREATMENT OF 134 CASES OF CHRONIC PROSTATITIS.

By LIONEL P. PLAYER, M. D., and CHARLES P. MATHÉ, M. D.
From the Urological Department of the University of California Medical School.

The most discouraging, as regards treatment, yet the most frequent condition encountered in the practice of Urology, is Chronic Prostatitis. After a careful study of these cases, observed for the past eighteen months, we have found that the usual methods of treatment are unsatisfactory. Cotton & O'Neill, in 1903 (1) reported what they term, poor average results. In their series of 16 cases of chronic posterior infection of the urethra, 7 were cured and 9 were not. In chronic infection of the vesicle and prostate, 11 cases were temporarily relieved, but none cured. Sanford (2) reported only 18 cured cases, out of a series of 100 cases treated at the Lakeside